

JACOB BROWN

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EDUCATION

Bachelor of Data Science

September 2018 - December 2025

Brigham Young University - Idaho

Rexburg, ID

- Vice President and Project Manager of Data Science Society.
 - GPA: 3.56.
 - Courses: Machine Learning, Data Wrangling and Visualization, Big Data, Linear Regression, SQL.
 - Projects: Facial Recognition (CNN), BYU-Idaho Tutor Bot, MRI Image Classification (CNN).
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WORK EXPERIENCE

Machine Learning Model

January 2025 - Present

AI Tutor Bot for BYU-Idaho, Project Lead

Rexburg, ID

- Spearheaded design and deployment of an AI-powered tutoring platform leveraging Vertex AI and Google Cloud, increasing student success rates in Data Science and related courses by 23%.
- Implemented a Retrieval-Augmented Generation (RAG) pipeline to integrate backend academic resources, enabling real-time, context-aware tutoring boosted student engagement by 17%.
- Engineered a prompt-response analytics pipeline operating MongoDB, tracking chatbot interactions and applying NLP and statistical analysis to improve model accuracy and learning outcomes, leading to a 25% increase in course retention.

Data Science Tutor

September 2024 - December 2024

Data Science BYU-Idaho

Rexburg, ID

- Delivered hands-on instruction on SQL, including relational database design, JOINS, UNIONS, subqueries, and data normalization to a cohort of 400+ undergraduate students.
- Provided one-on-one and group support on Python and R assignments, focusing on Pandas, Scikit-learn, and data visualization libraries Matplotlib and Seaborn.
- Collaborated with faculty to design and assess data-driven projects, improving student performance in SQL-related coursework by 40%, based on assignment and exam scores.

SQL Teaching Assistant

September 2024 - December 2024

Data Science Tutor BYU

Idaho

- Taught core SQL concepts to 50+ students, including relational database design, query writing, and normalization principles.
 - Supplied hands-on guidance with SQL operations JOIN, UNION, WHERE, enhancing student query accuracy and confidence.
 - Reviewed and provided feedback on 100+ student queries, helping restructure logical structure, syntax, and database efficiency.
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SKILLS

- Hard Skills: Data Management & Organization, Python, R, SQL, Cloud Computing, Data Visualization & Cleaning, Machine Learning.

- Soft Skills: Communication, Collaboration, Problem-Solving, Leadership, Adaptability, Analytical Thinking, Time Management, Empathy, Initiative.
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PROJECTS

Machine Learning Model

January 2025 - Present

Facial Recognition (CNN)

Rexburg, ID

- Developing a CNN achieving 80%+ accuracy in identifying faces from 500+ unseen images, enhancing recognition performance across varied conditions.
- Preprocessed and augmented 1,700+ facial images using Pandas, Polars, and Scikit-learn to boost model robustness and reduce overfitting by 50%, across 17 unique classes.

Machine Learning Model

January 2025 - April 2025

MRI Image Recognition (CNN)

Rexburg, ID

- Built a CNN with 82%+ accuracy to predict PTJC from 24 MRI scans, leveraging unsupervised learning to support early diagnosis.
- Preprocessed and augmented 24 medical images with Polars and Pandas, reducing false positives by 80%.

Statistical Analysis

April 2024 - July 2024

IBC, Project Manager

Rexburg, ID

- Analyzed location profitability across 50+ sites using R and Python, identifying top-performing regions to guide strategic expansion.
- Predicted optimal team size and structure, increasing projected revenue by 20% and restructuring productivity benchmarks.